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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/740,993	12/21/2000	Kenichi Shiozawa	Q62362	5461

7590 05/28/2004

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EXAMINER
MOORE JR, MICHAEL J

ART UNIT	PAPER NUMBER
2666	5

DATE MAILED: 05/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/740,993	Applicant(s) SHIOZAWA, KENICHI	
	Examiner Michael J. Moore, Jr.	Art Unit 2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 December 2000*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2, 3/19/01*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 3/19/2001 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner has considered the information disclosure statement.

Specification

2. The disclosure is objected to because of the following informalities: On page 1, line 17, the word "long" should be "longer". On page 8, line 18, the second instance of "204F" should be "204E" in order to correspond to Figure 1. Lastly, on page 14, line 14, the word "predetermine" should be "predetermined". Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4. Claim **3** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim **3** recites the limitation "the working and reserved routers" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims **1-3, 5, 6, 8, 9, and 11** are rejected under 35 U.S.C. 102(e) as being anticipated by McAllister et al. (U.S. 6,697,329). The McAllister et al. reference teaches all of the limitations of the listed claims with the reasoning that follows.

Regarding claims **1 and 2**, a restoration method for restoring packet flow in a packet transfer network composed of a plurality of routers is anticipated by the methods shown in Figures 2A and 2B. "Setting a working route and a reserved route in the packet transfer network, wherein the reserved route branches from the working route at a start-point router" is anticipated by route 32A – 32B – 32C – 32D (working route) and route 32A – 32E – 32F – 32D (reserved route) that both branch from node 32A (start-point router). "Determining whether a failure occurs in a link to a next-hop router on the working route" is anticipated by the link failure detection by P-NNI links 38 and 40 of Figure 2A described in column 9, line 47 – column 10, line 19. "Determining whether an incoming packet is to be protected" and "sending the packet back to the start-point router" are anticipated by the cranking back of a source-routed connection request to the source network element for re-routing upon a link failure that is spoken of in column 5, lines 15-24. Forwarding by the start-point router to the reserved route is anticipated by re-routing by the source node upon link failure spoken of in column 10, lines 1-19.

Regarding claim **3**, working and reserved routes being set by a network management server is anticipated by network management system (NMS) 46 of Figures 2A and 2B.

Regarding claim **5**, a packet transfer network comprising a plurality of routers is anticipated by the network 30 of Figure 2A. A network management server where a working route and a reserved route are set and branch from a start-point router is anticipated by the network management system (NMS) 46 as well as route 32A – 32B – 32C – 32D (working route) and route 32A – 32E – 32F – 32D (reserved route) that both branch from node 32A (start-point router) all shown in Figure 2B. "A line failure detector for detecting a failure occurring in a link to a next-hop router on the working route" is anticipated by signaling modules 42 within network nodes (routers) 32 shown in Figure 2A. "A table for storing information indicating where a packet to be protected is forwarded to" is anticipated by relational database structure 52 (table) of Figure 5 used by network nodes 32. A packet distribution controller for forwarding a packet to be protected depending on information stored in the table is anticipated by routing modules 44 within network nodes (routers) 32 shown in Figure 2A. Lastly, forwarding packets by the start-point router to the reserved route that are received by other routers is anticipated by the cranking back of a source-routed connection request to the source network element for re-routing upon a link failure spoken of in column 5, lines 15-24 as well as re-routing by the source node upon link failure spoken of in column 10, lines 1-19.

Regarding claims **6 and 9**, the start-point router being an ingress router is anticipated by source node 32A of Figure 2A.

Regarding claim **8**, a router in a packet protection network where a working route and a reserved route are set and branch from a start-point router is anticipated by network nodes (routers) 32 of Figure 2A and 2B as well as route 32A – 32B – 32C – 32D (working route) and route 32A – 32E – 32F – 32D (reserved route) that both branch from node 32A (start-point router) all shown in Figure 2B. "A line failure detector for detecting a failure occurring in a link to a next-hop router on the working route" is anticipated by signaling modules 42 within network nodes (routers) 32 shown in Figure 2A. "A table for storing information indicating where a packet to be protected is forwarded to" is anticipated by relational database structure 52 (table) of Figure 5 used by network nodes 32. A packet distribution controller for forwarding a packet to be protected depending on information stored in the table is anticipated by routing modules 44 within network nodes (routers) 32 shown in Figure 2A. Lastly, forwarding packets by the start-point router to the reserved route that are received by other routers is anticipated by the cranking back of a source-routed connection request to the source network element for re-routing upon a link failure spoken of in column 5, lines 15-24 as well as re-routing by the source node upon link failure spoken of in column 10, lines 1-19.

Regarding claim **11**, a recording medium storing a computer-readable program for instructing a computer to restore a flow of packets in a packet transfer network composed of a plurality of routers is anticipated by the relational database structure 52

of Figure 5 used to control flow of packets in a packet transfer network as shown in Figures 2A and 2B. "Setting a working route and a reserved route in the packet transfer network, wherein the reserved route branches from the working route at a start-point router" is anticipated by route 32A – 32B – 32C – 32D (working route) and route 32A – 32E – 32F – 32D (reserved route) that both branch from node 32A (start-point router). "Determining whether a failure occurs in a link to a next-hop router on the working route" is anticipated by the link failure detection by P-NNI links 38 and 40 of Figure 2A described in column 9, line 47 – column 10, line 19. "Determining whether an incoming packet is to be protected" and "sending the packet back to the start-point router" are anticipated by the cranking back of a source-routed connection request to the source network element for re-routing upon a link failure that is spoken of in column 5, lines 15-24. Forwarding by the start-point router to the reserved route is anticipated by re-routing by the source node upon link failure spoken of in column 10, lines 1-19.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims **4, 7, and 10** are rejected under 35 U.S.C. 103(a) as being unpatentable over McAllister et al. (U.S. 6,697,329) in view of Dantu et al. (U.S. 6,532,088).

Regarding claim **4**, McAllister et al. teaches the restoration method as in claim **1**. McAllister et al. fails to teach the addition of a protection control header to a protected

packet and the removal of this protection control header at the start-point router before forwarding of the packet to the reserved route. However, Dantu et al. teaches a packet label portion 1116 (protection control header) appended to packet 1100 in Figure 11 that is used to indicate path routing information as well as QoS priority information (protection control information). At the time of the invention, it would have been obvious to someone of ordinary skill in the art given these references to combine the teachings of McAllister et al. with the packet labeling teachings of the Dantu et al. reference. A motivation for doing so would be provide a way to specify the priority of individual packets in overload situations as stated in column 17, lines 1-14 of the Dantu et al. reference.

Regarding claims **7 and 10**, McAllister et al. teaches the packet transfer network of claim **5** as well as the router according to claim **8**. McAllister et al. fails to teach transfer and reception of table information between a network management server and other routers depending on which of these routers is the start-point router. However, Dantu et al. (U.S. 6,532,088) teaches node 300 (network management server) in Figure 3 that transmits forwarding table information and table updates to nodes 312, 316 and 320 over control lines 324, 328, and 332 as described in column 8, lines 20-39. At the time of the invention, it would have been obvious to someone of ordinary skill in the art given these references to combine the teachings of McAllister et al. with the forwarding table update teachings of the Dantu et al. reference. A motivation for doing so would be to provide updated working path and protection path forwarding specifications as stated in column 8, lines 45-47.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. McAllister et al. (U.S. 6,215,765), Burns et al. (U.S. 6,442,132), Drottar et al. (U.S. 6,343,067), and Fukushima et al. (US 2002/0060986) are all references that contain material pertinent to this application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Moore, Jr. whose telephone number is (703) 305-8703. The examiner can normally be reached on Monday-Friday (8:30am - 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached at (703) 308-5463. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael J. Moore, Jr.
Examiner
Art Unit 2666

mjm MM

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